

FIG. 1

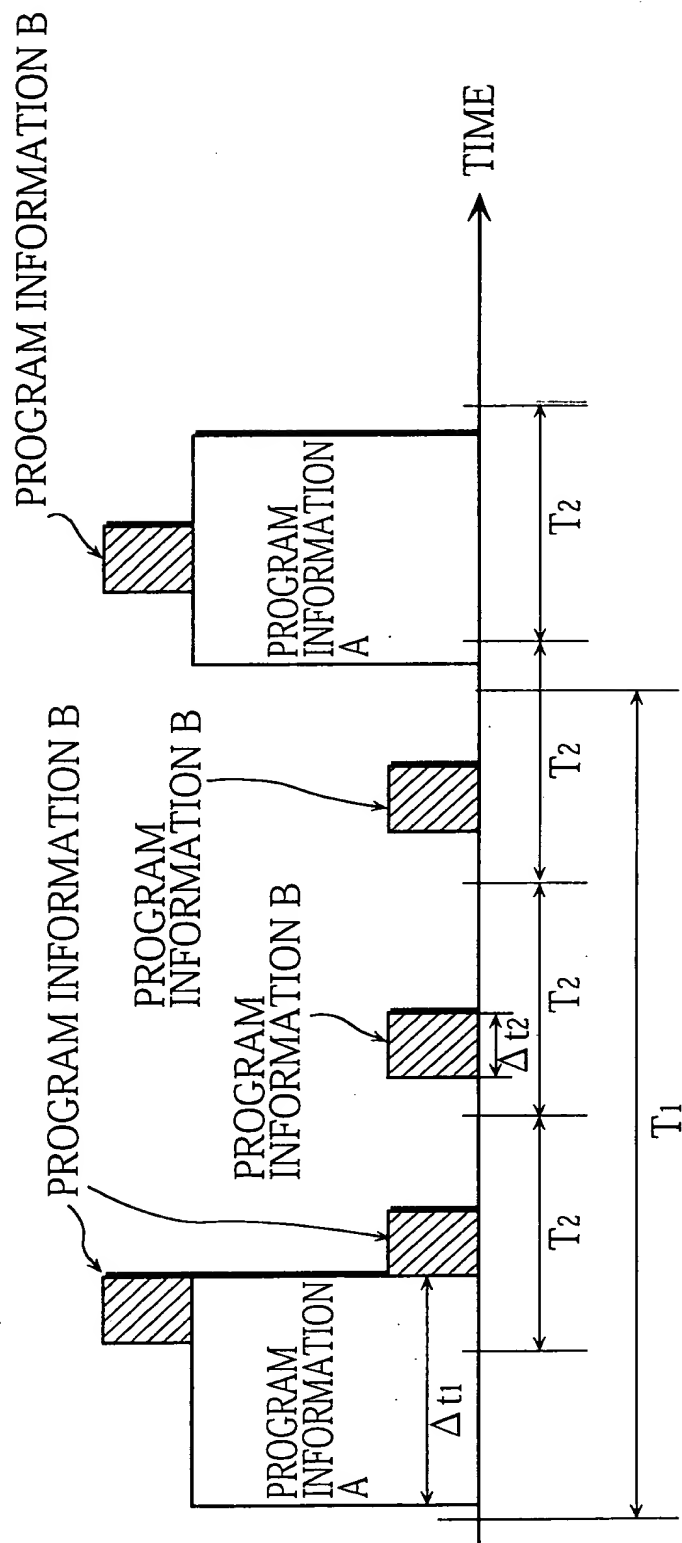


FIG. 2

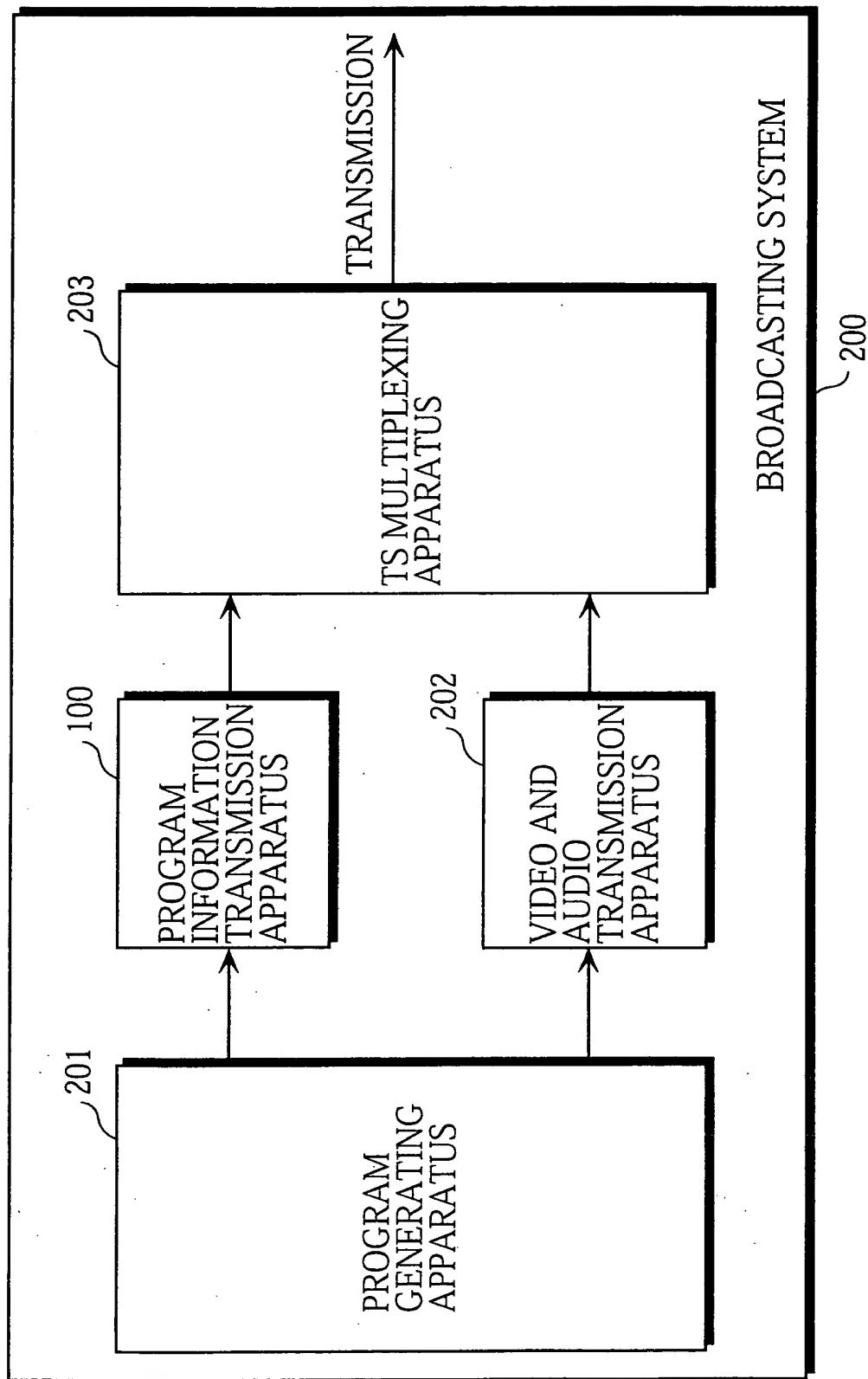


FIG. 3

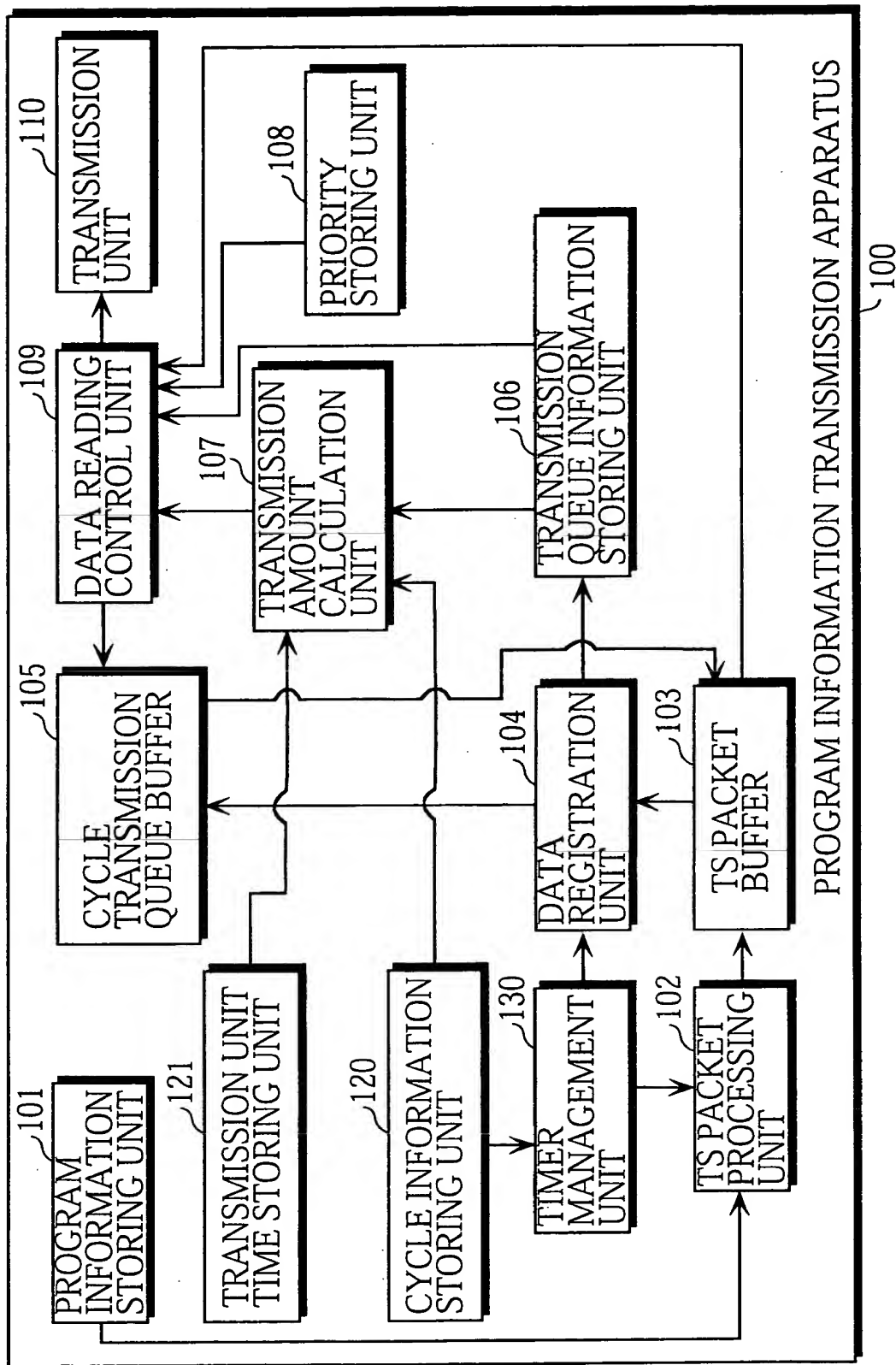


FIG. 4A

PROGRAM INFORMATION A

START TIME	BROADCAST LENGTH	SIZE	PROGRAM DESCRIPTION
1999/10/14 11:00	00:30	200byte	MORNING NEWS
1999/10/14 11:30	00:45	100byte	AFTERNOON NEWS
1999/10/14 12:15	01:00	450byte	AFTERNOON TV DRAMA
⋮			
1999/10/16 23:00	00:50	200byte	MIDNIGHT NEWS

FIG. 4B

PROGRAM INFORMATION B

START TIME	BROADCAST LENGTH	SIZE	PROGRAM DESCRIPTION
1999/10/14 11:00	00:30	250byte	TV DRAMA
1999/10/14 11:30	00:45	200byte	VARIETY SHOW
1999/10/14 12:15	01:00	500byte	WORLD NEWS
⋮			
1999/10/16 23:00	00:50	300byte	PROFESSIONAL BASEBALL NEWS

FIG. 4C

PROGRAM INFORMATION C

START TIME	BROADCAST LENGTH	SIZE	PROGRAM DESCRIPTION
1999/10/14 11:00	00:30	200byte	MORNING NEWS
1999/10/14 11:30	00:45	100byte	AFTERNOON NEWS
1999/10/14 12:15	01:00	450byte	AFTERNOON TV DRAMA
⋮			
1994/11/13 23:00	00:50	190byte	MIDNIGHT NEWS

FIG. 5

TYPE OF PROGRAM INFORMATION	CYCLE LENGTH
PROGRAM INFORMATION A(TableA)	3 SECONDS
PROGRAM INFORMATION B(TableB)	10 SECONDS
PROGRAM INFORMATION C(TableC)	10 SECONDS

FIG. 6

FIG. 6

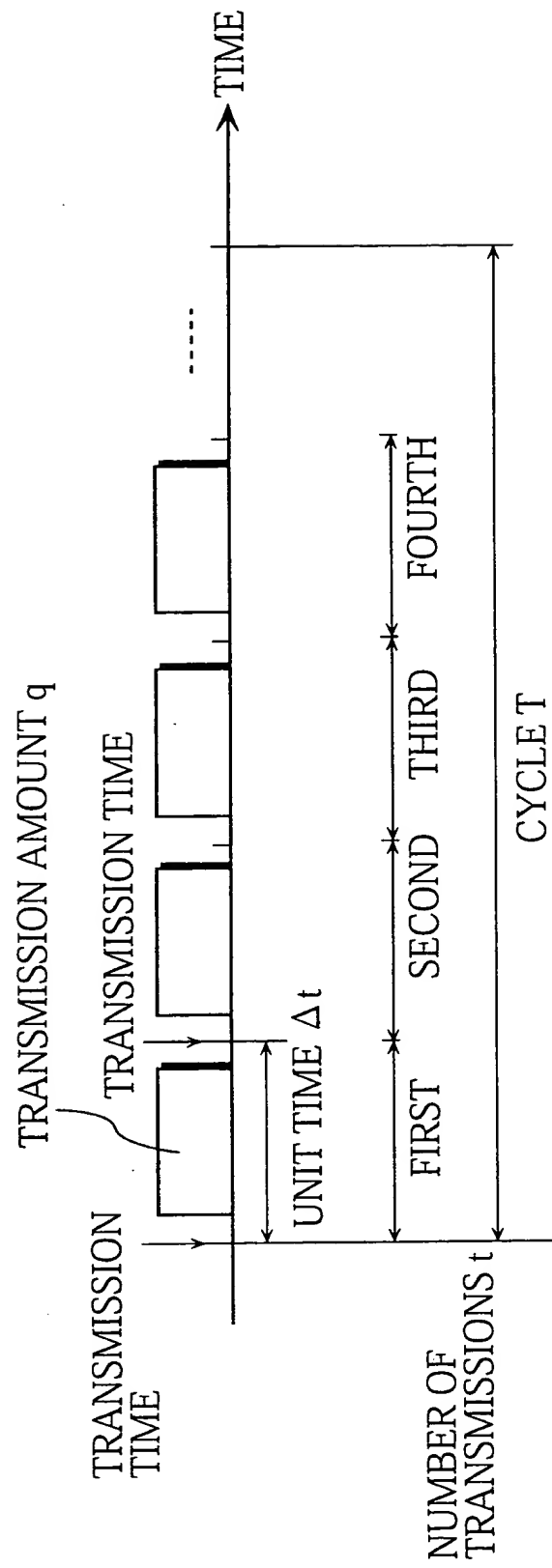


FIG. 7A

CYCLE=THREE SECONDS			
A1[1]	A1[2]	A1[3]	A1[4]
A2[1]	A2[2]	A2[3]	A2[4]
A3[1]	A3[2]	A3[3]	A3[4]

FIG. 7B

CYCLE=TEN SECONDS									
B1[1]	B1[2]	B1[3]	B1[4]						
B2[1]	B2[2]	B2[3]	B2[4]						
.	.	.	.						
.	.	.	.						
B100[1]	B100[2]	B100[3]	B100[4]						
C1[1]	C1[2]	.	C1[21]	C1[22]	.	C1[39]	C1[40]	C1[61]	C1[62] . C1[69]
C2[1]	C2[2]	.	C2[20]	C2[21]	.	C2[37]	C2[38]	C2[59]	
C3[1]	C3[2]	.	C3[19]	C3[20]	.	C3[39]	C3[40]	C3[61]	C3[70] . C3[76]

FIG. 8

CYCLE TRANSMISSION QUEUE BUFFER 105

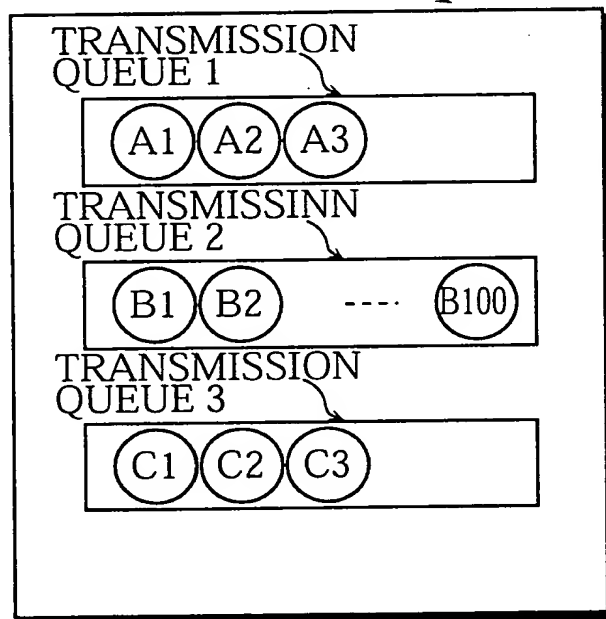


FIG. 9

TRANSMISSION QUEUE 1 TableA				
SubTable	Section1			
A1	4			
A2	4			
A3	4			
TRANSMISSION QUEUE 2 TableB				
SubTable	Section1			
B1	4			
B2	4			
.	.			
.	.			
B100	4			
TRANSMISSION QUEUE 3 TableC				
SubTable	Section1	Section2	Section3	Section4
C1	21	18	22	8
C2	20	17	22	
C3	19	20	22	15

FIG. 10

Table	PRIORITY
TableA	1
TableB	2
TableC	3

FIG. 11

Table	CYCLE	UNIT TIME PERIOD	NUMBER OF TRANSMISSION PERIODS	NUMBER OF PACKETS	NUMBER OF PACKETS PER UNIT TIME PERIOD	EMi	EL
TableA	THREE SECONDS	100ms	30	12	0.4	1	
TableB	TEN SECONDS	100ms	100	400	4	5	9
TableC	TEN SECONDS	100ms	100	204	2.04	3	

FIG. 13

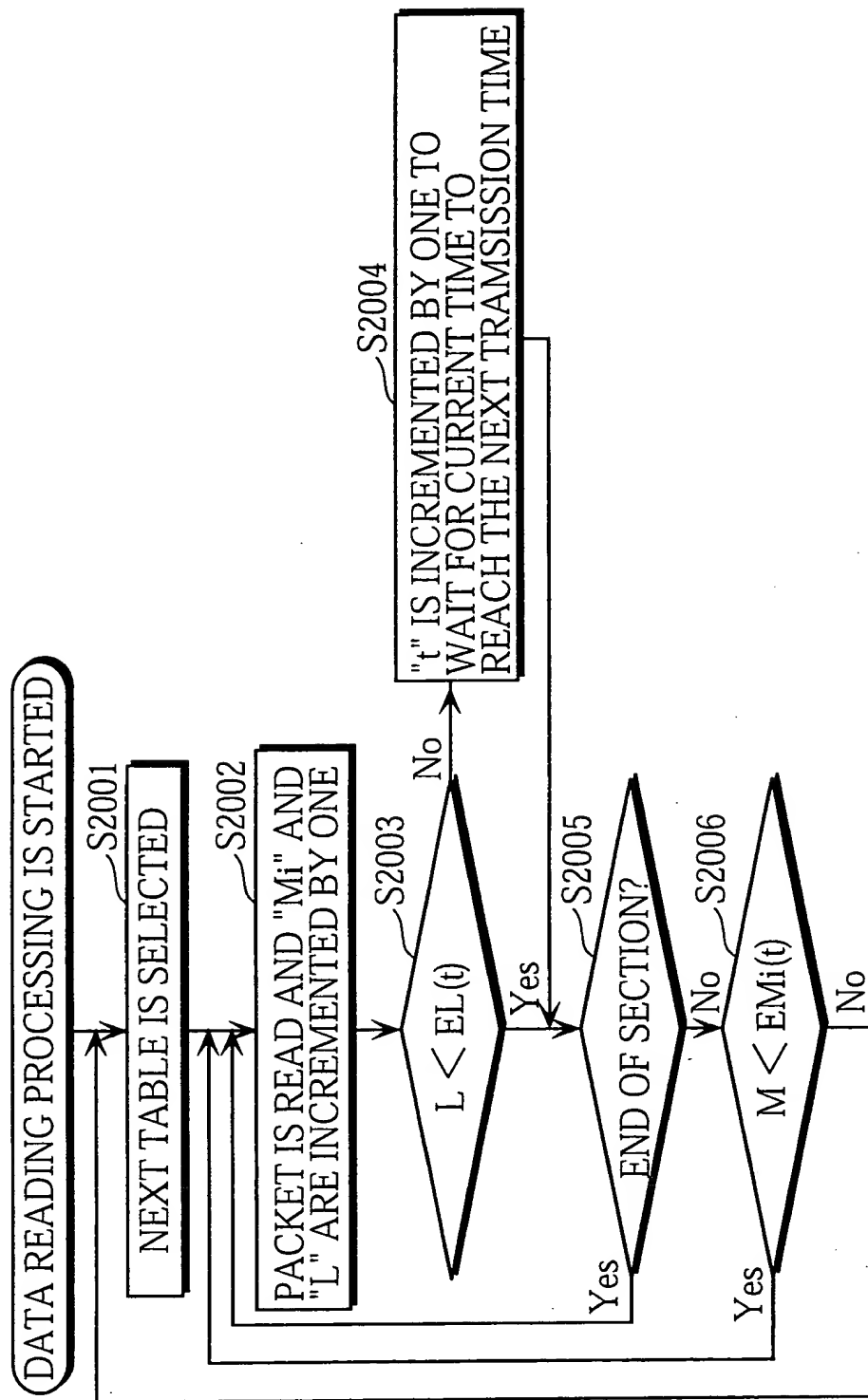


FIG. 14A

NUMBER OF TRANSMISSIONS t	no.1	no.2	no.3	no.4	no.5	no.6	no.7	no.8	no.9
1	A1	A1	A1	A1	B1	B1	B1	B1	B2
2	B2	B2	B2	B3	B3	B3	B3	C1	C1
3	C1	C1	C1	C1	C1	C1	C1	C1	C1
4	C1	C1	C1	C1	C1	C1	C1	C1	C1
5	C1	A2	A2	A2	A2	B4	B4	B4	B4
6	B5	B5	B5	B5	B6	B6	B6	B6	B7
7	B7	B7	B7	B8	B8	B8	B8	B9	B9
8	B9	B9	B10	B10	B10	B10	C2	C2	C2

FIG. 14B

	TableA		TableB		TableC		
NUMBER OF TRANSMISSIONS t	EM1(t)	M1	EM2(t)	M2	EM3(t)	M3	EL(t)
1	1	4	5	5	3	0	9
2	2	4	10	12	6	2	18
3	3	4	15	12	9	11	27
4	4	4	20	12	12	20	36
5	5	8	25	16	15	21	45
6	6	8	30	25	18	21	54
7	7	8	35	34	21	21	63
8	8	8	40	40	24	24	72

FIG. 15

Table	CYCLE	UNIT TIME PERIOD	NUMBER OF TRANSMISSION PERIODS	NUMBER OF PACKETS PER UNIT TIME PERIOD	ESi(t)	EMi(t)	ELt(t)
TableA	THREE SECONDS	100ms	12	0.4	$0.5 \times t$	$\text{INT}(\text{ES1}(t) + 0.9)$	$\text{ME1}(t)$
TableB	TEN SECONDS	100ms	400	4	$4.1 \times t$	$\text{INT}(\text{ES2}(t) + 0.9)$	$+\text{EM2}(t)$
TableC	TEN SECONDS	100ms	204	2.04	$2.1 \times t$	$\text{INT}(\text{ES3}(t) + 0.9)$	$+\text{EM3}(t)$

FIG. 16A

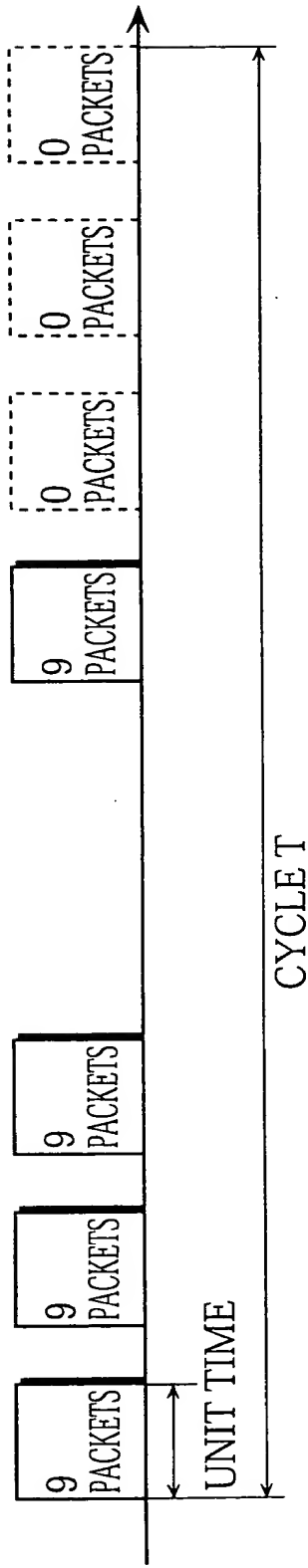
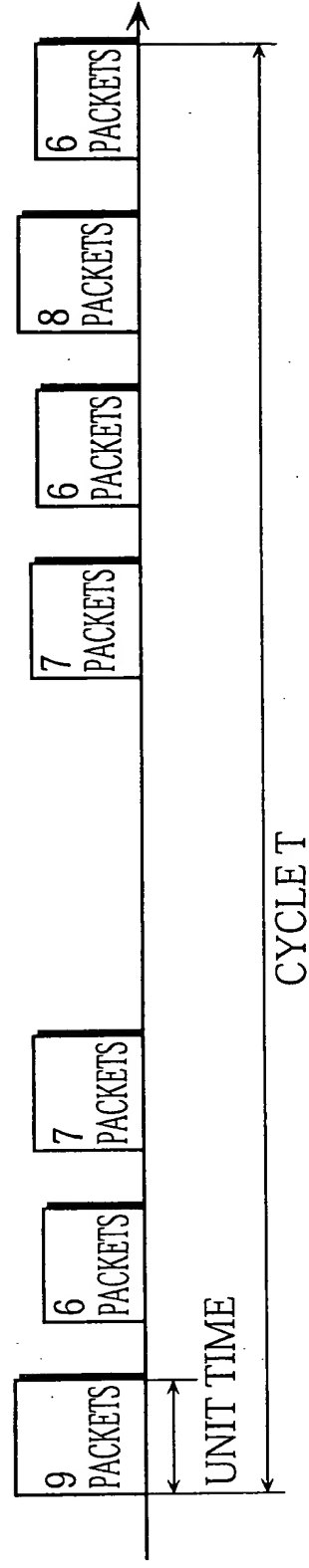


FIG. 16B



DEFINITIONS	no.1	no.2	no.3	no.4	no.5	no.6	no.7	no.8	no.9
	A1	A1	A1	A1	B1	B1	B1	B1	B2
	B2	B2	B2	B3	B3	B3			
	B3	B4	B4	B4	B4	B4	B4		
	C1	C1	C1	C1	C1	C1			
	C1	C1	C1	C1	C1	C1	C1		
	C1	C1	C1	C1	C1	C1			
	B5	B5	B5	B5	B6	B6	B6		
	B6	B7	B7	B7	B7	B8			

17B

	TableA			TableB			TableC			
OF SSIONS	ES1(t)	EM1(t)	M1	ES2(t)	EM2(t)	M2	ES3(t)	EM3(t)	M3	EL(t)
	0.5	1	4	4.1	5	5	2.1	3	0	9
	1.0	1	4	8.2	9	11	4.2	5	0	15
	1.5	2	4	12.3	13	16	6.3	7	2	22
	2.0	2	4	16.4	17	16	8.4	9	8	28
	2.5	3	4	20.5	21	16	10.5	11	15	35
	3.0	3	4	24.6	25	16	12.6	13	21	41
	3.5	4	4	28.7	29	23	14.7	15	21	48
	4.0	4	4	32.8	33	29	16.8	17	21	54

FIG. 18

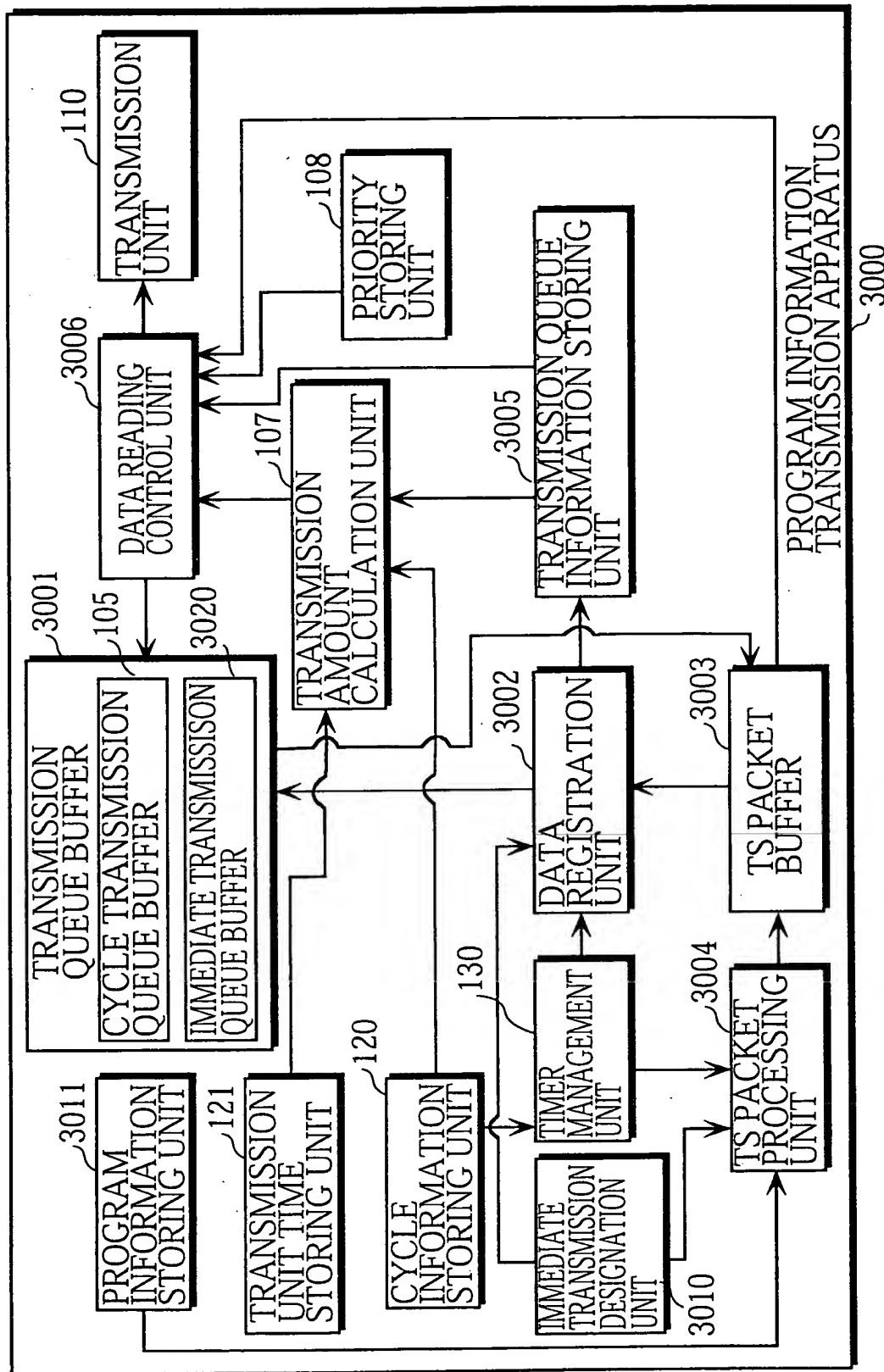


FIG. 19A

CYCLE=THREE SECONDS			
A1[1]	A1[2]	A1[3]	A1[4]
A2[1]	A2[2]	A2[3]	A2[4]
A3[1]	A3[2]	A3[3]	A3[4]

FIG. 19B

CYCLE==TEN SECONDS												
B1[1]	B1[2]	B1[3]	B1[4]									
B2[1]	B2[2]	B2[3]	B2[4]									
.	.	.	.									
.	.	.	.									
B100[1]	B100[2]	B100[3]	B100[4]									
C1[1]	C1[2]	.	C1[21]	C1[22]	.	C1[39]	C1[40]	.	C1[61]	C1[62]	.	C1[69]
C2[1]	C2[2]	.	C2[20]	C2[21]	.	C2[37]	C2[38]	.	C2[59]			
C3[1]	C3[2]	.	C3[19]	C3[20]	.	C3[39]	C3[40]	.	C3[61]	C3[70]	.	C3[76]

FIG. 19C

IMMEDIATE			
D1[1]	D1[2]	D1[3]	D1[4]
D2[1]	D2[2]	D2[3]	D2[4]
D3[1]	D3[2]	D3[3]	D3[4]

FIG. 20

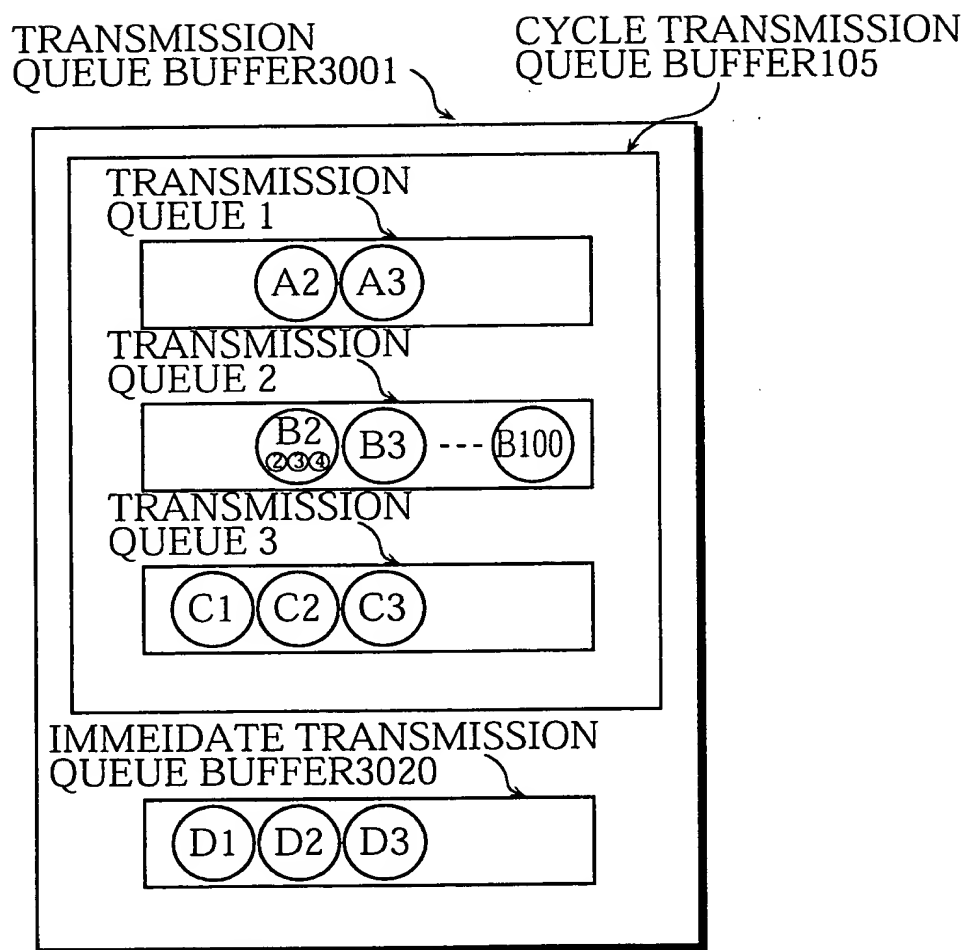


FIG. 21

TRANSMISSION QUEUE 1 TableA					
SubTable		Section1			
A1		4			
A2		4			
A3		4			
TRANSMISSION QUEUE 2 TableB					
SubTable		Section1			
B1		4			
B2		4			
.		.			
.		.			
B100		4			
TRANSMISSION QUEUE 3 TableC					
SubTable		Section1	Section2	Section3	Section4
C1		21	18	22	8
C2		20	17	22	
C3		19	20	22	15
IMMEDIATE TRANSMISSION QUEUE BUFFER TableD					
SubTable		Section1			
D1		4			
D2		4			
D3		4			

FIG. 22

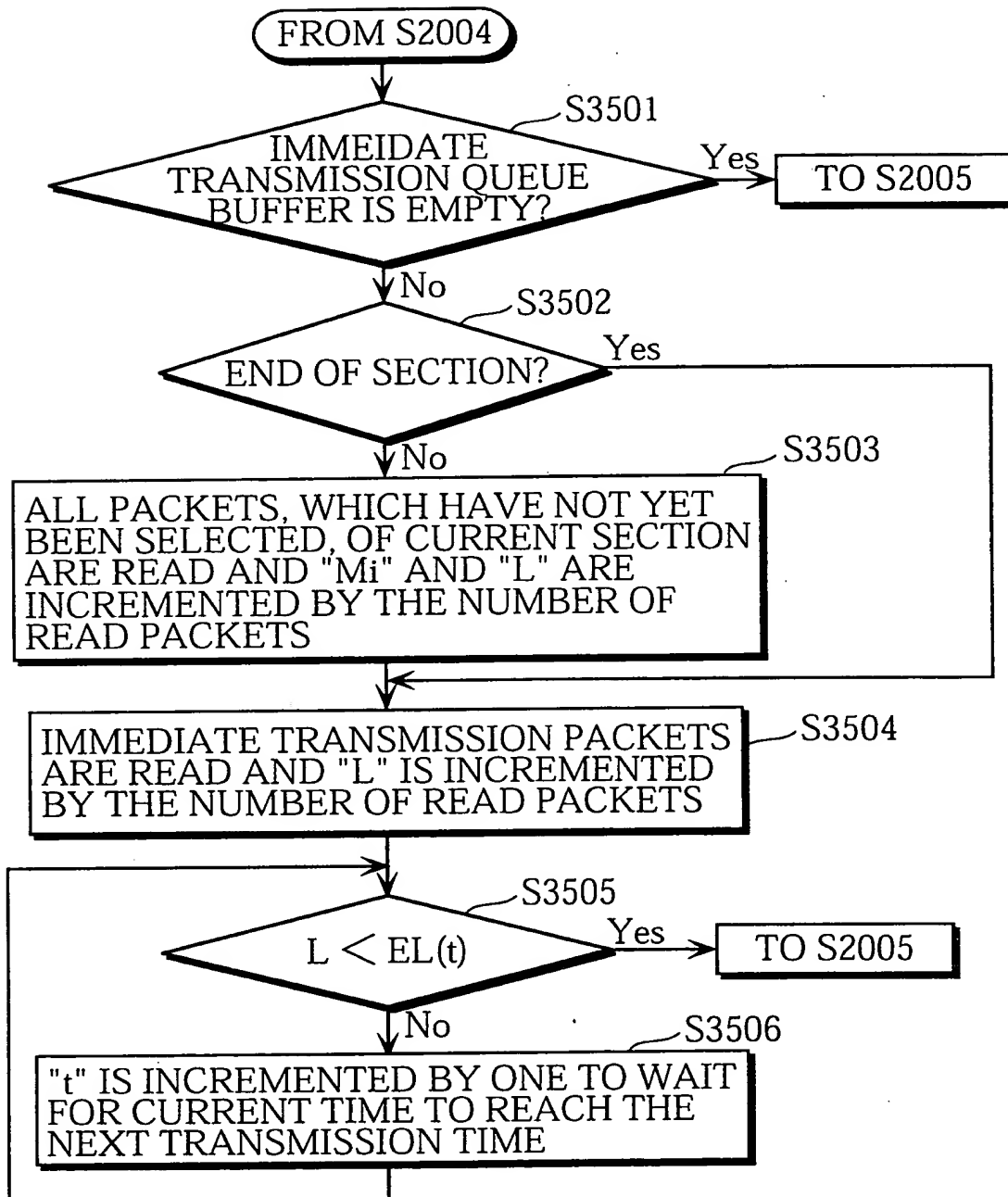


FIG. 23A

NUMBER OF TRANSMISSIONS t	no.1	no.2	no.3	no.4	no.5	no.6	no.7	no.8	no.9	no.10	no.11	no.12	no.13	no.14	no.15
1	A1	A1	A1	A1	B1	B1	B1	B1	B2						
2	B2	B2	B2	D1	D1	D	D1	D1	D2	D2	D2	D3	D3	D3	D3
3							B3	B3	B3						
4															

FIG. 23B

	TableA		TableB		TableC		TableD	
NUMBER OF TRANSMISSIONS t	EM1(t)	M1	EM2(t)	M2	EM3(t)	M3	M4	L
1	1	4	5	5	3	0	0	9
2	2	4	10	8	6	0	12	24
3	3	4	15	11	9	0	12	27
4								